

translating the service request into the ICL [interagent communication language; and

transmitting the service request from the bridge agent to the facilitator].

3. (Amended) A [An extensible] computer implemented method as recited in claim 1, wherein the service request is received from an agent capable of communicating in the ICL [interagent communication language].

4. (Amended) A [An extensible] computer implemented method as recited in claim 3, wherein the agent is independent of the multiple component registry.

5. (Amended) A [An extensible] computer implemented method as recited in claim 1, further comprising the acts [steps] of:

receiving functional capabilities of one or more of the distributed electronic agents [independent of the multiple component registry];

adding the agent functional capabilities to the facilitator registry; [and]

determining a second ICL sub-goal necessary to accomplish the ICL request for service;

selecting from the facilitator registry an agent capable of completing the second ICL sub-goal [request]; and

delegating the second ICL sub-goal [the goal] to the selected electronic agent.

6. (Amended) A [An extensible] computer implemented method as recited in claim 1, wherein the components registered in the multiple component registry are software based objects.

7. (Amended) A [An extensible] computer implemented method as recited in claim 6 [5], wherein the multiple component registry is a distributed object service.

8. (Amended) A [An extensible] computer implemented method as recited in claim 7 [6], wherein the multiple component registry utilizes Jini software.

9. (Amended) A [An extensible] computer implemented method as recited in claim 7 [6] wherein the multiple component registry utilizes Corba software.

10. (Amended) A [An extensible] computer implemented method as recited in claim 7 [6], wherein the multiple component registry utilizes Java software.

gsc Please cancel claim 11 without prejudice.

A2 12. (Amended) A [An extensible] computer implemented method as recited in claim 1 further comprising the act of periodically updating the facilitator registry.

Please cancel claim 13 without prejudice.

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Cmt 14. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 37 [13], wherein the [service request is] ICL request for service originates as an incompatible request for service generated in the incompatible protocol by one of the components registered in the multiple component registry, the method further comprising the steps [acts] of:

transmitting the incompatible request for service [service request] to the bridge agent; and

translating the incompatible request for service [service request] into the ICL [interagent communication language; and

transmitting the incompatible request for service [service request] from the bridge agent to the facilitator].

15. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 37 [13], wherein the ICL request for service [service request] is received from the community of distributed electronic agents [an agent capable of communicating in the interagent communication language].

16. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 37 [13] further comprising the steps [acts] of:

receiving functional capabilities of one or more of the distributed electronic agents, the agent [agents] being independent of the multiple component registry;

adding the agent functional capabilities to the facilitator registry; [and]

generating a second ICL sub-goal; and

selecting from the facilitator registry an agent capable of completing the second ICL sub-goal [request].

17. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 37 [13], wherein the components registered in the multiple component registry are software based objects.

18. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 17, wherein the multiple component registry is a distributed object service.

19. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 18, wherein the distributed object service [multiple component registry] utilizes Jini software.

20. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 18, wherein the distributed object service [multiple component registry] utilizes Corba software.

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cancel
21. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 18, wherein the distributed object service [multiple component registry] utilizes Java software.

Please cancel claim 22 without prejudice.

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23. (Amended) A computer readable medium [An extensible computer implemented method] as recited in claim 37 [13], further comprising the step [act] of periodically updating the facilitator registry.

Please cancel claim 24 without prejudice.

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25. (Amended) A software based flexible computer architecture as recited in claim 38 [24], wherein the components are software based objects and the multiple component registry is a distributed object service.

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28. (Amended) A software based flexible computer architecture as recited in claim 25 [26] wherein the distributed object service is based on Java software.

Please cancel claims 29-36 without prejudice.

Please add the following new claims:

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37.
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(New) A computer readable medium containing a program providing instructions for coordinating communication and cooperative task completion between a community of distributed electronic agents and at least one other distributed component system, the other distributed component system including a component registry providing access to a plurality of distributed components registered therein, said instructions performing the steps of:

receiving from a bridge agent a description of functional capabilities of the components registered in the component registry, the bridge agent being capable of translating between a dynamically expandable interagent communication language ("ICL") understood by the program and an incompatible protocol understood by the distributed component system;

adding to a facilitator registry, in ICL format, a declaration of functional capabilities corresponding to the components registered in the component registry, as received from the bridge agent; and

responsive to an ICL request for service, delegating an ICL sub-goal request to the bridge agent, whereby the bridge agent will translate the delegated ICL sub-goal request into the incompatible protocol to invoke one or more of the distributed components via the component registry and the translated request in the incompatible protocol.

R1.126

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38.

(New) A software-based flexible computer architecture for communication and cooperative task completion between a community of distributed electronic agents and at least one other distributed component system, the other distributed component system including a component registry providing access to a plurality of distributed components registered therein, the computer architecture comprising:

a plurality of electronic agents capable of communicating in a dynamically expandable interagent communication language ("ICL"), at least one of the agents being a bridge agent capable of translating between the ICL and an incompatible protocol understood by the distributed component system, and further capable of providing a description of functional capabilities of the components registered in the component registry; and

a facilitator capable of receiving from the bridge agent, in the ICL format the functional capabilities of the components and registering such component capabilities in a facilitator registry, the facilitator further capable of receiving a request for service in the ICL and in response thereto, determining a sub goal necessary to accomplish the service request, and delegating the sub goal request, in the ICL, to the bridge agent based upon a match between the sub-goal and the registered capabilities of the component community, whereby the bridge agent will translate the ICL request into the incompatible protocol to invoke at least one of the components registered in the distributed component registry.

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R1.126/41:
39.

(New) A software based flexible computer architecture as recited in claim 38 wherein the bridge agent is integral with the facilitator.

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(New) A computer-implemented method as recited in claim 1 further comprising the steps of:


generating a service request in the incompatible protocol, coded to invoke the services of the bridge agent, and
translating the generated service request from the incompatible protocol into the ICL.

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Concluded
SC 1

Remarks:

The preceding amendment has been made in order to more clearly point out and distinctly claim the subject matter which the applicant regards as his invention, and is not intended to in any way limit the scope of the invention claimed.

Respectfully submitted,
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